

<b>Post Doctoral Scholars</b>	
Post Doctoral Count	10.00
Post Doctoral Calendar Months	59.50
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$310,302
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	86.00
Graduate Students Amount	\$363,911
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$764,393
<b>C. Fringe Benefits</b>	\$97,928
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$862,321
<b>D. Equipment</b>	\$250,000
<b>E. Travel</b>	
Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0

Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$73,374
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$193,552
<i>Total Other Direct Costs (G)</i>	\$266,926
<b>H. Total Direct Costs (A Through G)</b>	<b>\$1,379,247</b>
<b>I. Indirect Costs*</b>	<b>\$697,378</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$2,076,625</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$2,076,625</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC Basis	69.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.



## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2013874

**Managing Division Abbreviation:** PHY

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 Massachusetts Ave 5th Floor Cambridge, MA 021385369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 08/18/2020

**Amendment Number:** 000

**Proposal Number:** 2013874

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above as modified by revised budget dated 07/17/2020.

### AWARD INFORMATION

**Award Number (FAIN):** 2013874

**Award Instrument:** Continuing Grant

**Award Date:** 08/18/2020

**Award Period of Performance:** Start Date: 09/01/2020 End Date: 08/31/2025

**Project Title:** Spindle Self-Organization and Bioenergetics in Vivo

**Managing Division Abbreviation:** PHY

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 18-564 Division of Physics: Investigator-Initiated Research Projects

**CFDA Number and Name:** 47.049 Mathematical and Physical Sciences

### FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$160,000

**Total Intended Award Amount:** \$800,000

**Total Approved Cost Share or Matching Amount:** \$0

**Total Amount Obligated to Date:** \$160,000

**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2021	\$160,000
2022	\$160,000
2023	\$160,000
2024	\$160,000

## PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

## NSF CONTACT INFORMATION

**Managing Grants Official**  
(Primary Contact)

**Name:** Pamela V. Conyers

**Email:** pconyers@nsf.gov

**Awarding Official**

**Name:** Denise M. Martin

**Email:** dmartin@nsf.gov

**Managing Program Officer**

**Name:** Krastan B Blagoev

**Email:** kblagoev@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 03/14/2017, and NSF Agency Specific Requirements, dated 02/25/2019, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 18-564 Division of Physics: Investigator-Initiated Research Projects.

## BUDGET

A. Senior Personnel	
Senior Personnel Count	0.00
Senior Personnel Calendar Months	0.00
Senior Personnel Academic	0.00

Months	
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$0
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$0
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	2.00
Graduate Students Amount	\$52,703
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$52,703
<b>C. Fringe Benefits</b>	\$0
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$52,703
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs	\$0

Travel	
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$17,631
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$33,807
<i>Total Other Direct Costs (G)</i>	\$51,438
<b>H. Total Direct Costs (A Through G)</b>	<b>\$104,141</b>
<b>I. Indirect Costs*</b>	<b>\$55,859</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$160,000</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$160,000</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC	69.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2013874

**Managing Division Abbreviation:** PHY

**Amendment Number:** 004

### AWARDEE INFORMATION

**Award Recipient:** PRESIDENT AND FELLOWS OF HARVARD COLLEGE

**Awardee Address:** 1033 MASSACHUSETTS AVE 5TH FL CAMBRIDGE, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (UEI):** LN53LCFJFL45

### AMENDMENT INFORMATION

**Amendment Type:** Supplement

**Amendment Date:** 03/28/2022

**Amendment Number:** 004

**Proposal Number:** 2151481

**Amendment Description:**

The purpose of this amendment is to:

- Add supplemental support to the award in the amount shown below in the Funding Information section.

Except as modified by this amendment, the award conditions remain unchanged.

### AWARD INFORMATION

**Award Number (FAIN):** 2013874

**Award Instrument:** Continuing Grant

**Award Date:** 08/18/2020

**Award Period of Performance:** Start Date: 09/01/2020 End Date: 08/31/2025

**Project Title:** Spindle Self-Organization and Bioenergetics in Vivo

**Managing Division Abbreviation:** PHY

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 18-564 Division of Physics: Investigator-Initiated Research Projects

**Assistance Listing Number(s) and Name(s):** 47.049 Mathematical and Physical Sciences

### FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$129,916  
**Total Intended Award Amount:** \$800,000  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$449,916

## PROJECT PERSONNEL

**Principal Investigator:**

**Email:**

**Organization:** PRESIDENT  
AND FELLOWS OF  
HARVARD COLLEGE

## NSF CONTACT INFORMATION

**Managing Grants Official**  
(Primary Contact)

**Name:** Pamela V. Conyers  
**Email:** pconyers@nsf.gov

**Awarding Official**

**Name:** Pamela V. Conyers  
**Email:** pconyers@nsf.gov

**Managing Program Officer**

**Name:** Wilson A. Francisco  
**Email:** wfrancis@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 10/04/2021, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

## BUDGET

<b>A. Senior Personnel</b>	
Senior Personnel Count	0.00
Senior Personnel Calendar Months	0.00
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$0
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00

Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$0
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	0.00
Graduate Students Amount	\$0
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$0
<b>C. Fringe Benefits</b>	
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$0
<b>D. Equipment</b>	\$129,916
<b>E. Travel</b>	
Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$0



Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$0
<i>Total Other Direct Costs (G)</i>	\$0
<b>H. Total Direct Costs (A Through G)</b>	<b>\$129,916</b>
<b>I. Indirect Costs*</b>	<b>\$0</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$129,916</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$129,916</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>



## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2023528

**Managing Division Abbreviation:** DMS

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 Massachusetts Ave 5th Floor Cambridge, MA 021385369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 08/31/2020

**Amendment Number:** 000

**Proposal Number:** 2023528

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above as modified by revised budget dated 07/09/2020.

Funding in years 3-5 should be contingent on the result of the site visit by NSF staff to be conducted during the second year of the award.

Costs of entertainment, amusement, diversion and social activities, and any costs directly associated with such costs (such as meals, lodging, rentals, transportation and gratuities) are unallowable. When certain meals are an integral and necessary part of a conference or meeting (i.e., working meals where business is transacted), grant funds may be used for such meals. Grant funds may also be used to furnish a reasonable amount of coffee or soft drinks for conference or meeting participants and attendees during coffee breaks. No NSF funds may be spent on meals or coffee breaks for intramural meetings of an organization or any of its components, including, but not limited to, laboratories, departments and centers.

### AWARD INFORMATION

**Award Number (FAIN):** 2023528

**Award Instrument:** Continuing Grant

**Award Date:** 08/31/2020

**Award Period of Performance:** Start Date: 09/01/2020 End Date: 08/31/2025

**Project Title:** Foundations of Data Science Institute

**Managing Division Abbreviation:** DMS**Research and Development Award:** Yes**Funding Opportunity:** NSF 19-604 Transdisciplinary Research in Principles of Data Science Phase II**CFDA Number and Name:** 47.049 Mathematical and Physical Sciences**FUNDING INFORMATION****Amount Obligated by this Amendment:** \$84,087**Total Intended Award Amount:** \$420,437**Total Approved Cost Share or Matching Amount:** \$0**Total Amount Obligated to Date:** \$84,087**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2021	\$84,087
2022	\$84,087
2023	\$84,087
2024	\$84,089

**Principal****Investigator:** [REDACTED]**Email:** [REDACTED]**Institution:** Harvard University**COLLABORATIVE INFORMATION**

Proposal ID	Lead	PI Name	Institution
2023505	Y	[REDACTED]	The Regents of the University of California, Berkeley
2022205	N		Northeastern University
2022446	N		Trustees of Boston University
2022448	N		Massachusetts Institute of Technology

2023528

N



Harvard College,  
President &  
Fellows of  
Harvard  
University

## NSF CONTACT INFORMATION

### Managing Grants

**Official** (Primary  
Contact)

**Name:** Lynda  
Kummelt

**Email:**  
lkummelt@nsf.gov

### Awarding Official

**Name:** Aprile N Roberson  
**Email:** aroberso@nsf.gov

### Managing Program Officer

**Name:** Tracy J Kimbrel  
**Email:** tkimbrel@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 03/14/2017, and NSF Agency Specific Requirements, dated 02/25/2019, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 19-604 Transdisciplinary Research in Principles of Data Science Phase II.

## BUDGET

<b>A. Senior Personnel</b>	
Senior Personnel Count	1.00
Senior Personnel Calendar Months	0.20
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$5,157
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	1.00
Post Doctoral Calendar Months	5.16
Post Doctoral Academic Months	0.00

Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$32,385
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	0.00
Graduate Students Amount	\$0
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$37,542
<b>C. Fringe Benefits</b>	\$9,714
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$47,256
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$2,500
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$0
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0

Subawards	\$0
Other	\$0
<i>Total Other Direct Costs (G)</i>	\$0
<b>H. Total Direct Costs (A Through G)</b>	<b>\$49,756</b>
<b>I. Indirect Costs*</b>	<b>\$34,331</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$84,087</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$84,087</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC	69.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2023528

**Managing Division Abbreviation:** DMS

**Amendment Number:** 004

### AWARDEE INFORMATION

**Award Recipient:** PRESIDENT AND FELLOWS OF HARVARD COLLEGE

**Awardee Address:** 1033 MASSACHUSETTS AVE 5TH FL CAMBRIDGE, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (UEI):** LN53LCFJFL45

### AMENDMENT INFORMATION

**Amendment Type:** Frwd Funded

**Amendment Date:** 09/14/2022

**Amendment Number:** 004

**Proposal Number:** 2244975

**Amendment Description:**

The purpose of this amendment is to forward fund scheduled incremental funding to the award in the amount shown below in the Funding Information section.

This amendment includes funds that were originally scheduled to be released in a future fiscal year. It is still the grantee's responsibility to submit an annual project report for each year in accordance with the NSF policies.

Except as modified by this amendment, the award conditions remain unchanged.

### AWARD INFORMATION

**Award Number (FAIN):** 2023528

**Award Instrument:** Continuing Grant

**Award Date:** 08/31/2020

**Award Period of Performance:** Start Date: 09/01/2020 End Date: 08/31/2025

**Project Title:** Foundations of Data Science Institute

**Managing Division Abbreviation:** DMS

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 19-604 Transdisciplinary Research in Principles of Data Science Phase II

**Assistance Listing Number(s) and Name(s):** 47.070 Computer and Information Science and Engineering, 47.049 Mathematical and Physical Sciences



**FUNDING INFORMATION**

**Amount Obligated by this Amendment:** \$84,087  
**Total Intended Award Amount:** \$420,437  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$336,348

**PROJECT PERSONNEL****Principal Investigator:****Email:**

**Organization:** PRESIDENT  
AND FELLOWS OF  
HARVARD COLLEGE

**NSF CONTACT INFORMATION****Managing Grants Official**

(Primary Contact)

**Name:** Lynda Kummelt**Email:** lkummelt@nsf.gov**Awarding Official****Name:** Daniel P McEnrue**Email:** dpmcenru@nsf.gov**Managing Program Officer****Name:** Tracy J Kimbrel**Email:** tkimbrel@nsf.gov**GENERAL TERMS AND CONDITIONS**

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 05/13/2022, available at <https://www.nsf.gov/awards/managing rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

**BUDGET**

<b>A. Senior Personnel</b>	
Senior Personnel Count	2.00
Senior Personnel Calendar Months	0.40
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$5,636
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	

Post Doctoral Count	2.00
Post Doctoral Calendar Months	9.30
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$31,918
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	0.00
Graduate Students Amount	\$0
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$37,554
<b>C. Fringe Benefits</b>	\$9,702
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$47,256
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$2,500
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$0



Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$0
<i>Total Other Direct Costs (G)</i>	\$0
<b>H. Total Direct Costs (A Through G)</b>	<b>\$49,756</b>
<b>I. Indirect Costs*</b>	<b>\$34,331</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$84,087</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$84,087</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2038059

**Managing Division Abbreviation:** CHE

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 Massachusetts Ave 5th Floor Cambridge, MA 021385369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 08/05/2020

**Amendment Number:** 000

**Proposal Number:** 2038059

**Amendment Description:**

It is a pleasure to inform you that \$1,000,000 is awarded to Harvard College, President & Fellows of Harvard University on behalf of [REDACTED] the recipient of the National Science Foundation's Alan T. Waterman Award. This award is intended to support research or advanced study in sciences. This award is presented annually to a U. S. scientist who has demonstrated outstanding research accomplishments in science or engineering, and exceptional promise for significant future achievement. The intent of Congress when it established the Alan T. Waterman Award, as expressed in P.L. 94-86 and its legislative history, was to give recognition to outstanding young scientists based on their previous achievements. Although the award takes the form of a "no strings" grant for further research or study, it is fundamentally a prize and not a consideration for future services. Further, in no sense is it to be considered as a scholarship or fellowship. (See H.R. Rep. No. 96-91, accompanying H.R. 2729, 96th Congress, 1st Session, P.L. 96-44)

This award provides funding for [REDACTED] endeavors for a period of five (5) years in the total amount of \$1,000,000. The Harvard College, President & Fellows of Harvard University's role in receiving these funds is in the nature of institutional management of an escrow account for the use and benefit of [REDACTED]

Any publication of any material based on or developed under this award must contain an acknowledgment of NSF support and a disclaimer in the following terms:

This material is based upon research supported by the National Science Foundation under the Alan T. Waterman Award, Grant No. CHE-2038059.

Any opinions, findings, and conclusions or recommendations expressed in this publication are those of

the author and do not necessarily reflect the views of the National Science Foundation.

The Foundation congratulates both [REDACTED] and the Harvard College, President & Fellows of Harvard University on this prestigious award.

## AWARD INFORMATION

**Award Number (FAIN):** 2038059

**Award Instrument:** Standard Grant

**Award Date:** 08/05/2020

**Award Period of Performance:** Start Date: 08/15/2020 End Date: 07/31/2025

**Project Title:** 2020 Waterman Award

**Managing Division Abbreviation:** CHE

**Research and Development Award:** Yes

**Funding Opportunity:** None

**CFDA Number and Name:** 47.049 Mathematical and Physical Sciences

## FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$1,000,000

**Total Intended Award Amount:** \$1,000,000

**Total Approved Cost Share or Matching Amount:** \$0

**Total Amount Obligated to Date:** \$1,000,000

**Expenditure Limitation:** Not Applicable

## PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

## NSF CONTACT INFORMATION

**Managing Grants**

**Official (Primary Contact)**

**Name:** Pamela V. Conyers

**Email:** pconyers@nsf.gov

**Awarding Official**

**Name:** Denise M. Martin

**Email:** dmartin@nsf.gov

**Managing Program Officer**

**Name:** Robin L McCarley

**Email:** rmccarle@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75).



## NATIONAL SCIENCE FOUNDATION

## Grant Letter

Award:2040378

PI Name [REDACTED]

## AWARD NOTICE

AWARD DATE: July 16, 2020

ORIGINAL GRANT NUMBER (FAIN): 2000610  
 START DATE OF TRANSFER: July 1, 2020  
 (becomes start date of transferred award)  
 END DATE OF GRANT: August 31, 2020  
 1. Original Grant Amount (including amendments actually awarded, if any) \$163,302  
 2. Total estimated disbursements and unpaid obligations (at effective date of transfer) \$0  
 3. Estimated unobligated balance (amount to be transferred) Net \$163,302

## ORIGINAL GRANTEE NAME AND ADDRESS

[REDACTED]  
 Director of Sponsored Programs and Research  
 Northwestern University  
 750 N. Lake Shore Drive  
 Rubloff 7th Floor  
 Chicago, IL  
 60611-4570

DUNS ID: 160079455

## TRANSFER ORGANIZATION (NEW GRANTEE) NAME AND ADDRESS

[REDACTED]  
 Director, Office of Grants Administration  
 Harvard College, President & Fellows of  
 Harvard University  
 1033 Massachusetts Ave  
 5th Floor  
 Cambridge, MA 02138-5369

DUNS ID: 082359691

Acceptance of this transfer by the new grantee organization constitutes agreement by that organization to assume responsibility for completion of the project effort and to administer the grant (as awarded) from the transfer date to completion in accordance with any special terms and conditions and the applicable general terms and conditions that normally govern NSF awards made to the transferee institution and as noted below.

NEW GRANT NUMBER (FAIN): 2040378  
 TRANSFERRED AMOUNT: \$163,302  
 AWARD END DATE: June 30, 2023

## NSF APPROVAL AND NOTIFICATION

NSF GRANTS AND AGREEMENTS OFFICER  
 Aprile Roberson  
 Douglass  
 Grants Officer

NSF PROGRAM OFFICER  
 James Matthew  
 (703) 292-2467

PI: [REDACTED]

Increments:

FY 2021 \$86,188  
 FY 2022 \$86,510

Please view the project reporting requirements for this award at the following web

## NATIONAL SCIENCE FOUNDATION

## Grant Letter

Award:2040378

PI Name: [REDACTED]

address .

Costs of entertainment, amusement, diversion and social activities, and any costs directly associated with such costs (such as meals, lodging, rentals, transportation and gratuities) are unallowable. When certain meals are an integral and necessary part of a conference or meeting (i.e., working meals where business is transacted), grant funds may be used for such meals. Grant funds may also be used to furnish a reasonable amount of coffee or soft drinks for conference or meeting participants and attendees during coffee breaks.

No NSF funds may be spent on meals or coffee breaks for intramural meetings of an organization or any of its components, including, but not limited to, laboratories, departments and centers.

Research Terms and Conditions (RTCs) dated March 14, 2017, and NSF Agency Specific Requirements, dated February 25, 2019, available at:  
<https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots..

The cognizant grants official contact is Lynda Kummelt (703) 292-7721.

CFDA No: 47.049

DMS-2040378

000

SUMMARY PROPOSAL BUDGET

Person MOS	cal	acad	sumr	Funds granted By NSF
A. (1.00) Total Senior personnel	1.12	0.00	0.00	\$30,000
B. Other Personnel				
1. (0.00) Post Doctoral associates	0.00	0.00	0.00	\$0
2. (0.00) Other professionals	0.00	0.00	0.00	\$0
3. (1.00) Graduate students				\$15,280
4. (0.00) Secretarial-clerical				\$0
5. (0.00) Undergraduate students				\$0
6. (0.00) Other				\$0
Total salaries and wages (A+B)				\$45,280
C. Fringe benefits (if charged as direct cost)				\$6,960
Total salaries wages and fringes (A+B+C)				\$52,240
D. Total permanent equipment				\$0
E. Travel				
1. Domestic				\$18,523
2. International				\$15,000
F. Total participant support costs				\$0
G. Other direct costs				
1. Materials and supplies				\$0
2. Publication costs/page charges				\$0
3. Consultant services				\$0
4. Computer (ADPE) services				\$0
5. Subawards				\$0
6. Other				\$27,796
Total other direct costs				\$27,796
H. Total direct costs (A through G)				\$113,559
I. Total indirect costs				\$49,743
(For information on the rate used, please refer to the award notice)				
J. Total direct and indirect costs (H+I)				\$163,302
K. Fee				\$0
L. Amount of this request (J) or (J+K)				\$163,302
M. Cost sharing				\$0

NATIONAL SCIENCE FOUNDATION

Grant Letter

Award:2040378

PI Name





## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2040378

**Managing Division**  
**Abbreviation:** DMS

**Amendment Number:** 003

### RECIPIENT INFORMATION

**Recipient (Legal Business Name):** PRESIDENT AND FELLOWS OF HARVARD COLLEGE  
**Recipient Address:** 1033 MASSACHUSETTS AVE STE 3 CAMBRIDGE, MA 02138-5366  
**Official Recipient Email Address:** [REDACTED]  
**Unique Entity Identifier (UEI):** LN53LCFJFL45

### AMENDMENT INFORMATION

**Amendment Type:** No Cost Extensions  
**Amendment Date:** 02/22/2024  
**Amendment Number:** 003  
**Proposal Number:** Not Applicable  
**Amendment Description:**

The purpose of this amendment is to extend the end date from 04/30/2024 to 04/30/2025 without additional funds to allow for the completion of the agreed-to level of effort.

Except as modified by this amendment, the award conditions remain unchanged.

### PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Organization:** PRESIDENT  
AND FELLOWS OF  
HARVARD COLLEGE

### NSF CONTACT INFORMATION

**Managing Grants Official**  
(Primary Contact)  
**Name:** Lynda Kummelt  
**Email:** lkummelt@nsf.gov  
**Phone:** (703) 292-7721

**Awarding Official**  
**Name:** Lynda Kummelt  
**Email:** lkummelt@nsf.gov

**Managing Program Officer**  
**Name:** James M. Douglass  
**Email:** mdouglas@nsf.gov  
**Phone:** (703) 292-2467



## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2045981

**Managing Division Abbreviation:** DMS

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 Massachusetts Ave 5th Floor Cambridge, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 01/14/2021

**Amendment Number:** 000

**Proposal Number:** 2045981

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above as modified by revised budget dated 12/01/2020.

### AWARD INFORMATION

**Award Number (FAIN):** 2045981

**Award Instrument:** Continuing Grant

**Award Date:** 01/14/2021

**Award Period of Performance:** Start Date: 07/01/2021 End Date: 06/30/2026

**Project Title:** CAREER: Beyond Conditional Independence: New Model-Free Targets for High-Dimensional Inference

**Managing Division Abbreviation:** DMS

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 20-525 Faculty Early Career Development Program

**CFDA Number and Name:** 47.049 Mathematical and Physical Sciences

### FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$75,529

**Total Intended Award Amount:** \$400,000  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$75,529  
**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2022	\$77,693
2023	\$79,922
2024	\$82,219
2025	\$84,637

## PROJECT PERSONNEL

**Principal Investigator:** [REDACTED] **Email:** [REDACTED] **Institution:** Harvard University

## NSF CONTACT INFORMATION

**Managing Grants Official**  
 (Primary Contact)  
**Name:** Lynda Kummelt  
**Email:** lkummelt@nsf.gov

**Awarding Official**  
**Name:** Aprile N Roberson  
**Email:** aroberso@nsf.gov

**Managing Program Officer**  
**Name:** Edsel A Pena  
**Email:** epena@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 03/14/2017, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rte.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 20-525 Faculty Early Career Development Program.

## BUDGET

A. Senior Personnel	
Senior Personnel Count	1.00
Senior Personnel Calendar Months	1.00

Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$15,111
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$0
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	1.00
Graduate Students Amount	\$24,075
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$39,186
<b>C. Fringe Benefits</b>	\$3,506
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$42,692
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$2,000
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0

Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$0
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$0
<i>Total Other Direct Costs (G)</i>	\$0
<b>H. Total Direct Costs (A Through G)</b>	<b>\$44,692</b>
<b>I. Indirect Costs*</b>	<b>\$30,837</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$75,529</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$75,529</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC	69.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2045981

**Managing Division**  
**Abbreviation:** DMS

**Amendment Number:** 001

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University  
**Awardee Address:** 1033 MASSACHUSETTS AVE 5th Floor Cambridge, MA 02138-5369  
**Official Awardee Email Address:** [REDACTED]  
**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** Other Admin No Fund Actions  
**Amendment Date:** 05/20/2021  
**Amendment Number:** 001  
**Proposal Number:** Not Applicable  
**Amendment Description:**

The purpose of this amendment is to correct the date of the Research Terms and Conditions (RTCs) cited in a previous amendment to the award. This award is subject to the RTCs dated 11/12/2020, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rtc.jsp>

### PROJECT PERSONNEL

<b>Principal Investigator:</b> [REDACTED]	<b>Email:</b> [REDACTED]	<b>Institution:</b> Harvard University
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### NSF CONTACT INFORMATION

<b>Managing Grants Official</b> (Primary Contact) <b>Name:</b> Lynda Kummelt <b>Email:</b> lkummelt@nsf.gov	<b>Awarding Official</b> <b>Name:</b> Joseph M. Kittle <b>Email:</b> jkittle@nsf.gov	<b>Managing Program Officer</b> <b>Name:</b> Edsel A Pena <b>Email:</b> epena@nsf.gov
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## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2047192

**Managing Division Abbreviation:** EAR

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 MASSACHUSETTS AVE 5th Floor Cambridge, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 03/23/2021

**Amendment Number:** 000

**Proposal Number:** 2047192

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above .

### AWARD INFORMATION

**Award Number (FAIN):** 2047192

**Award Instrument:** Continuing Grant

**Award Date:** 03/23/2021

**Award Period of Performance:** Start Date: 06/01/2021 End Date: 05/31/2026

**Project Title:** CAREER: Ecological turnover at the dawn of the Great Ordovician Biodiversification Event - quantifying the Cambro-Ordovician transition through the lens of exceptional preservation

**Managing Division Abbreviation:** EAR

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 20-525 Faculty Early Career Development Program

**CFDA Number and Name:** 47.050 Geosciences

### FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$126,123



**Total Intended Award Amount:** \$829,539  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$126,123  
**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2022	\$207,317
2023	\$218,725
2024	\$136,800
2025	\$140,574

## PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

## NSF CONTACT INFORMATION

**Managing Grants**

**Official (Primary Contact)**

**Name:** Angela A. Turner

**Email:** aturner@nsf.gov

**Awarding Official**

**Name:** Angela A. Turner

**Email:** aturner@nsf.gov

**Managing Program Officer**

**Name:** Dena Michelle Smith-Nufio

**Email:** dmsmith@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 03/14/2017, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 20-525 Faculty Early Career Development Program.

## BUDGET

**A. Senior Personnel**

Senior Personnel Count	1.00
------------------------	------

Senior Personnel Calendar Months	1.00
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$10,533
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	1.00
Post Doctoral Calendar Months	8.40
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$38,917
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	0.00
Graduate Students Amount	\$0
<b>Undergraduate Students</b>	
Undergraduate Students Count	1.00
Undergraduate Students Amount	\$6,000
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$55,450
<b>C. Fringe Benefits</b>	\$12,679
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$68,129
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$1,500
International	\$2,500
<b>F. Participant Support Costs</b>	



Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$1,000
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$1,500
Subawards	\$0
Other	\$0
<i>Total Other Direct Costs (G)</i>	\$2,500
<b>H. Total Direct Costs (A Through G)</b>	<b>\$74,629</b>
<b>I. Indirect Costs*</b>	<b>\$51,494</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$126,123</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$126,123</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC	69.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2047192

**Managing Division**  
**Abbreviation:** EAR

**Amendment Number:** 006

### RECIPIENT INFORMATION

**Recipient (Legal Business Name):** PRESIDENT AND FELLOWS OF HARVARD COLLEGE

**Recipient Address:** 1033 MASSACHUSETTS AVE STE 3 CAMBRIDGE, MA 02138-5366

**Official Recipient Email Address:** [REDACTED]

**Unique Entity Identifier (UEI):** LN53LCFJFL45

### AMENDMENT INFORMATION

**Amendment Type:** Other Admin No Fund Actions

**Amendment Date:** 12/10/2024

**Amendment Number:** 006

**Proposal Number:** Not Applicable

**Amendment Description:**

The purpose of this amendment is to authorize the awardee to enter into the proposed subaward agreement in accordance with the Subawarding, Transferring or Contracting Out Part of an NSF Award request submitted on 10/30/2024.

The subaward agreement should contain appropriate provisions in accordance with the award terms and conditions in effect at the time of this award amendment, and contain any special conditions included in this award.

Except as modified by this amendment, the award conditions remain unchanged.

### PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Organization:**

PRESIDENT AND  
FELLOWS OF  
HARVARD COLLEGE

### NSF CONTACT INFORMATION

**Managing Grants Official**  
(Primary Contact)  
**Name:** Angela A. Turner

**Awarding Official**  
**Name:** Angela A. Turner  
**Email:** aturner@nsf.gov

**Managing Program Officer**  
**Name:** Yurena Yanes

**Email:** aturner@nsf.gov  
**Phone:** (703) 292-7524

**Email:** yyanes@nsf.gov  
**Phone:** (703) 292-2649

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2101884

**Managing Division Abbreviation:** DBI

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 MASSACHUSETTS AVE 5th Floor Cambridge, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 07/20/2021

**Amendment Number:** 000

**Proposal Number:** 2101884

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above .

Funds provided for participant support may not be diverted by the awardee to other categories of expense without the prior written approval of the cognizant NSF Program Officer. Since participant support cost is not a normal account classification, the awardee organization must be able to separately identify participant support costs. It is highly recommended that separate accounts, sub-accounts, sub-task, or sub-ledgers be established to accumulate these costs. The awardee should have written policies and procedures to segregate participant support costs.

The Foundation authorizes the awardee to enter into the proposed subaward arrangement and to fund the subaward with award funds up to the amount indicated in the approved budget or NSF-approved post award request. The subaward should contain appropriate provisions consistent with Appendix B of the Research Terms and Conditions (RTC) dated November 12, 2020, or Articles 8.a.4. and 9 of the NSF Grant General Conditions (GC-1) dated November 12, 2020 (as appropriate), as well as any special conditions included in this award.

### AWARD INFORMATION

**Award Number (FAIN):** 2101884

**Award Instrument:** Continuing Grant

**Award Date:** 07/20/2021

**Award Period of Performance:** Start Date: 09/15/2021 End Date: 08/31/2025  
**Project Title:** Digitization TCN: Collaborative Research: Bringing Asia to digital life: mobilizing underrepresented Asian herbarium collections in the US to propel biodiversity discovery  
**Managing Division Abbreviation:** DBI  
**Research and Development Award:** Yes  
**Funding Opportunity:** NSF 15-576 Advancing Digitization of Biodiversity Collections  
**CFDA Number and Name:** 47.074 Biological Sciences

## FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$485,585  
**Total Intended Award Amount:** \$1,632,344  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$485,585  
**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2022	\$410,400
2023	\$361,448
<b>PROJECT PERSONNEL</b>	<b>\$374,911</b>

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

**Co-Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

## COLLABORATIVE INFORMATION

Proposal ID	Lead	PI Name	Institution
2101884	Y	[REDACTED]	Harvard College, President & Fellows of Harvard University
2100755	N		The New York Botanical Garden
2101773	N		Missouri

			Botanical Garden
2101846	N		University of Colorado
2101868	N		Regents of the University of Michigan
2101886	N		Trustees of Boston University
2101966	N		Bernice P. Bishop Museum

### NSF CONTACT INFORMATION

#### Managing Grants

**Official** (Primary

Contact)

**Name:** Denise L  
Hundley

**Email:**  
dhundley@nsf.gov

#### Awarding Official

**Name:** Denise L Hundley  
**Email:** dhundley@nsf.gov

#### Managing Program Officer

**Name:** Reed Schiele Beaman  
**Email:** rsbeaman@nsf.gov

### GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 15-576 Advancing Digitization of Biodiversity Collections.

### BUDGET

A. Senior Personnel	
Senior Personnel Count	0.00
Senior Personnel Calendar Months	0.00
Senior Personnel Academic	0.00

Months	
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$0
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$0
<b>Other Professionals</b>	
Other Professionals Count	4.00
Other Professionals Calendar Months	12.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$162,077
<b>Graduate Students</b>	
Graduate Students Count	0.00
Graduate Students Amount	\$0
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$162,077
<b>C. Fringe Benefits</b>	\$90,763
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$252,840
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$39,588
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs	\$5,094



Travel	
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	6.00
<i>Total Participant Costs (F)</i>	\$5,094
<b>G. Other Direct Costs</b>	
Materials Supplies	\$1,800
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$62,937
Other	\$2,178
<i>Total Other Direct Costs (G)</i>	\$66,915
<b>H. Total Direct Costs (A Through G)</b>	<b>\$364,437</b>
<b>I. Indirect Costs*</b>	<b>\$121,148</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$485,585</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$485,585</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC Harvard Budget	34.0000%
MTDC, UMASS	34.0000%
MTDC, UNH	34.0000%
MTDC, UVM	34.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2104150

**Managing Division Abbreviation:** DBI

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 MASSACHUSETTS AVE 5th Floor Cambridge, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 07/27/2021

**Amendment Number:** 000

**Proposal Number:** 2104150

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above .

### AWARD INFORMATION

**Award Number (FAIN):** 2104150

**Award Instrument:** Continuing Grant

**Award Date:** 07/27/2021

**Award Period of Performance:** Start Date: 08/01/2021 End Date: 07/31/2024

**Project Title:** Collaborative Research: LightningBug, An Integrated Pipeline to Overcome The Biodiversity Digitization Gap

**Managing Division Abbreviation:** DBI

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 21-502 Infrastructure Innovation for Biological Research

**CFDA Number and Name:** 47.074 Biological Sciences

### FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$45,090

**Total Intended Award Amount:** \$111,116  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$45,090  
**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

<b>Fiscal Year</b>	<b>Increment Amount</b>
2022	\$63,346
2023	\$2,680

#### PROJECT PERSONNEL

**Principal Investigator:** [REDACTED] **Email:** [REDACTED] **Institution:** Harvard University

**Co-Principal Investigator:** [REDACTED] **Email:** [REDACTED] **Institution:** Harvard University

#### COLLABORATIVE INFORMATION

<b>Proposal ID</b>	<b>Lead</b>	<b>PI Name</b>	<b>Institution</b>
2104149	Y	[REDACTED]	Yale University
2104150	N		Harvard College, President & Fellows of Harvard University
2104151	N		The University of Chicago
2104152	N		University of Florida

#### NSF CONTACT INFORMATION

##### Managing Grants

**Official (Primary Contact)**  
**Name:** Denise L Hundley  
**Email:** dhundley@nsf.gov

**Awarding Official**  
**Name:** Vanessa L. Richardson  
**Email:** vlrichar@nsf.gov

**Managing Program Officer**  
**Name:** Peter H. McCartney  
**Email:** pmccartn@nsf.gov

#### GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rte.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 21-502 Infrastructure Innovation for Biological Research.

## BUDGET

<b>A. Senior Personnel</b>	
Senior Personnel Count	3.00
Senior Personnel Calendar Months	1.20
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$9,667
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$0
<b>Other Professionals</b>	
Other Professionals Count	1.00
Other Professionals Calendar Months	3.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$10,601
<b>Graduate Students</b>	
Graduate Students Count	0.00
Graduate Students Amount	\$0
<b>Undergraduate Students</b>	
Undergraduate Students Count	1.00
Undergraduate Students Amount	\$3,000

<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$23,268
<b>C. Fringe Benefits</b>	\$9,881
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$33,149
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$500
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$0
<i>Total Other Direct Costs (G)</i>	\$500
<b>H. Total Direct Costs (A Through G)</b>	<b>\$33,649</b>
<b>I. Indirect Costs*</b>	<b>\$11,441</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$45,090</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$45,090</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC	34.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

**NATIONAL SCIENCE FOUNDATION****Award Notice****Award Number (FAIN):** 2104150**Managing Division**  
**Abbreviation:** DBI**Amendment Number:** 001**AWARDEE INFORMATION**

**Award Recipient:** PRESIDENT AND FELLOWS OF HARVARD COLLEGE  
**Awardee Address:** 1033 MASSACHUSETTS AVE 5TH FL CAMBRIDGE, MA 02138-5369  
**Official Awardee Email Address:** [REDACTED]  
**Unique Entity Identifier (UEI):** LN53LCFJFL45

**AMENDMENT INFORMATION**

**Amendment Type:** No Cost Extensions  
**Amendment Date:** 09/19/2022  
**Amendment Number:** 001  
**Proposal Number:** Not Applicable  
**Amendment Description:**

The purpose of this amendment is to extend the end date from 07/31/2024 to 07/31/2025 without additional funds to allow for the completion of the agreed-to level of effort.

The FY 2022 continuing grant increment has been deferred; please see new funding schedule below:

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2023	\$63,346
2024	\$2,680

Except as modified by this amendment, the award conditions remain unchanged.

**PROJECT PERSONNEL****Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Organization:** PRESIDENT  
AND FELLOWS OF  
HARVARD COLLEGE



**co-Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Organization:** PRESIDENT  
AND FELLOWS OF  
HARVARD COLLEGE

#### NSF CONTACT INFORMATION

**Managing Grants Official**

(Primary Contact)

**Name:** Christine Castell

**Email:** ccastell@nsf.gov

**Awarding Official**

**Name:** Vanessa L. Richardson

**Email:** vlrichar@nsf.gov

**Managing Program Officer**

**Name:** Peter H. McCartney

**Email:** pmccartn@nsf.gov

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2105048

**Managing Division Abbreviation:** DMR

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** PRESIDENT AND FELLOWS OF HARVARD COLLEGE

**Awardee Address:** 1033 MASSACHUSETTS AVE 5TH FL CAMBRIDGE, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (UEI):** LN53LCFJFL45

### AMENDMENT INFORMATION

**Amendment Type:** Renewal

**Amendment Date:** 03/30/2022

**Amendment Number:** 000

**Proposal Number:** 2105048

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above as modified by revised budget dated 01/13/2022.

The Foundation authorizes the awardee to enter into the proposed subaward arrangement and to fund the subaward with award funds up to the amount indicated in the approved budget or NSF-approved post award request. The subaward should contain appropriate provisions consistent with Appendix B of the Research Terms and Conditions (RTC) dated November 12, 2020, or Articles 8.a.4. and 9 of the NSF Grant General Conditions (GC-1) dated November 12, 2020 (as appropriate), as well as any special conditions included in this award.

### AWARD INFORMATION

**Award Number (FAIN):** 2105048

**Award Instrument:** Continuing Grant

**Award Date:** 03/30/2022

**Award Period of Performance:** Start Date: 04/15/2022 End Date: 03/31/2026

**Project Title:** Transport on van der Wals Superconductor Heretostructures

**Managing Division Abbreviation:** DMR

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 20-589 Division of Materials Research: Topical Materials Research Programs: Biomaterials (BMAT), Condensed Matter Physics (CMP), Metals and Metallic Nanostructures (MMN), Polymers (POL)

**Assistance Listing Number(s) and Name(s):** 47.049 Mathematical and Physical Sciences

## FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$190,000

**Total Intended Award Amount:** \$760,000

**Total Approved Cost Share or Matching Amount:** \$0

**Total Amount Obligated to Date:** \$190,000

**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2023	\$190,000
2024	\$190,000
2025	\$190,000

## PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Organization:** PRESIDENT  
AND FELLOWS OF  
HARVARD COLLEGE

**co-Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Organization:**  
UNIVERSITY OF  
CHICAGO, THE

## NSF CONTACT INFORMATION

**Managing Grants Official**

(Primary Contact)

**Name:** Elizabeth

Gebremedhin

**Email:** egebreme@nsf.gov

**Awarding Official**

**Name:** Elizabeth Gebremedhin

**Email:** egebreme@nsf.gov

**Managing Program Officer**

**Name:** Tomasz Durakiewicz

**Email:** tdurakie@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 10/04/2021, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 20-589 Division of Materials Research: Topical Materials Research Programs: Biomaterials (BMAT), Condensed Matter Physics (CMP), Metals and Metallic Nanostructures (MMN), Polymers (POL).

## BUDGET

<b>A. Senior Personnel</b>	
Senior Personnel Count	1.00
Senior Personnel Calendar Months	0.20
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$5,981
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$0
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	2.00
Graduate Students Amount	\$46,865
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0

<i>Total Salaries and Wages (A+B)</i>	\$52,846
<b>C. Fringe Benefits</b>	\$1,411
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$54,257
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$11,504
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$40,000
Other	\$21,614
<i>Total Other Direct Costs (G)</i>	\$73,118
<b>H. Total Direct Costs (A Through G)</b>	<b>\$127,375</b>
<b>I. Indirect Costs*</b>	<b>\$62,625</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$190,000</b>
<b>K. Fees</b>	\$0
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$190,000</b>
<b>M. Cost Sharing Proposed Level</b>	\$0

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC Basis (Excludes tuition)	69.0000%
Subaward (69% on 1st \$25k of each)	69.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2105903

**Managing Division Abbreviation:** DEB

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 MASSACHUSETTS AVE 5th Floor Cambridge, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 07/12/2021

**Amendment Number:** 000

**Proposal Number:** 2105903

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above .

### AWARD INFORMATION

**Award Number (FAIN):** 2105903

**Award Instrument:** Continuing Grant

**Award Date:** 07/12/2021

**Award Period of Performance:** Start Date: 07/15/2021 End Date: 06/30/2026

**Project Title:** Collaborative Research: MRA: Modeling and forecasting phenology across spatiotemporal and taxonomic scales using ecological observatory and mobilized digital herbarium data

**Managing Division Abbreviation:** DEB

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 20-506 Macrosystems Biology and NEON-Enabled Science

**CFDA Number and Name:** 47.074 Biological Sciences

### FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$224,956



**Total Intended Award Amount:** \$548,109  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$224,956  
**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2023	\$323,153

#### PROJECT PERSONNEL

**Principal Investigator:** [REDACTED] **Email:** [REDACTED] **Institution:** Harvard University

#### COLLABORATIVE INFORMATION

Proposal ID	Lead	PI Name	Institution
2105932	Y	[REDACTED]	University of California, Santa Barbara
2105903	N	[REDACTED]	Harvard College, President & Fellows of Harvard University
2105907	N	[REDACTED]	Bryn Mawr College

#### NSF CONTACT INFORMATION

<b>Managing Grants Official</b> (Primary Contact) <b>Name:</b> Staci Jenkins <b>Email:</b> sjenkins@nsf.gov	<b>Awarding Official</b> <b>Name:</b> Staci Jenkins <b>Email:</b> sjenkins@nsf.gov	<b>Managing Program Officer</b> <b>Name:</b> Diana Pilson <b>Email:</b> dpilson@nsf.gov
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#### GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 20-506 Macrosystems Biology and NEON-Enabled Science.

## BUDGET

<b>A. Senior Personnel</b>	
Senior Personnel Count	1.00
Senior Personnel Calendar Months	2.60
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$37,000
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	1.00
Post Doctoral Calendar Months	12.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$50,000
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	0.00
Graduate Students Amount	\$0
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0

<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$87,000
<b>C. Fringe Benefits</b>	\$16,110
<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$103,110
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$0
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$30,000
<i>Total Other Direct Costs (G)</i>	\$30,000
<b>H. Total Direct Costs (A Through G)</b>	<b>\$133,110</b>
<b>I. Indirect Costs*</b>	<b>\$91,846</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$224,956</b>
<b>K. Fees</b>	<b>\$0</b>
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$224,956</b>
<b>M. Cost Sharing Proposed Level</b>	<b>\$0</b>

\*Indirect Cost Rates

The indirect cost rate(s) for this award is/are not available. These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal

& Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2107078

**Managing Division Abbreviation:** CNS

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 MASSACHUSETTS AVE 5th Floor Cambridge, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 06/28/2021

**Amendment Number:** 000

**Proposal Number:** 2107078

**Amendment Description:**

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above .

In accordance with sections 1869a and 1869b of title 42 of the United States Code, the awardee will do the following: 1. Obtain from the school board or comparable authority responsible for the schools considering participation in the project, written approval prior to involvement of pre-college students in pre-college education research and development, pilot-testing, evaluation, and revision of experimental and innovative pre-college curriculum. 2. Include in every publication, testing, or distribution agreement involving instructional materials developed under this grant (including, but not limited to, teachers' manuals, textbooks, films, tapes, or other supplementary material) a requirement that such material be made available within the school district using it for inspection by parents or guardians of children engaged in educational programs or projects using such material of that school district.

### AWARD INFORMATION

**Award Number (FAIN):** 2107078

**Award Instrument:** Continuing Grant

**Award Date:** 06/28/2021

**Award Period of Performance:** Start Date: 07/01/2021 End Date: 06/30/2025

**Project Title:** CNS Core: Medium: Approximation and Randomization in the Programmable Data Plane

**Managing Division Abbreviation:** CNS

**Research and Development Award:** Yes

**Funding Opportunity:** NSF 20-591 Computer and Information Science and Engineering (CISE): Core Programs

**CFDA Number and Name:** 47.070 Computer and Information Science and Engineering

## FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$860,000

**Total Intended Award Amount:** \$1,200,000

**Total Approved Cost Share or Matching Amount:** \$0

**Total Amount Obligated to Date:** \$860,000

**Expenditure Limitation:** Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2023	\$340,000

## PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

**Co-Principal**

**Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

## NSF CONTACT INFORMATION

**Managing Grants**

**Official (Primary Contact)**

**Name:** Irene C. Sattler

**Email:** isattler@nsf.gov

**Awarding Official**

**Name:** Irene C. Sattler

**Email:** isattler@nsf.gov

**Managing Program Officer**

**Name:** Ann Christine Von

Lehmen

**Email:** avonlehm@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 20-591 Computer and

Information Science and Engineering (CISE): Core Programs.

## BUDGET

<b>A. Senior Personnel</b>	
Senior Personnel Count	4.00
Senior Personnel Calendar Months	4.00
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$117,313
<b>B. Other Personnel</b>	
<b>Post Doctoral Scholars</b>	
Post Doctoral Count	1.00
Post Doctoral Calendar Months	12.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$78,308
<b>Other Professionals</b>	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0
<b>Graduate Students</b>	
Graduate Students Count	4.00
Graduate Students Amount	\$206,658
<b>Undergraduate Students</b>	
Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0
<b>Secretarial - Clerical</b>	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0
<b>Other</b>	
Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$402,279
<b>C. Fringe Benefits</b>	\$47,812



<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$450,091
<b>D. Equipment</b>	\$0
<b>E. Travel</b>	
Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$0
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$0
Participant Support Costs Other	\$0
Total Number of Participants	0.00
<i>Total Participant Costs (F)</i>	\$0
<b>G. Other Direct Costs</b>	
Materials Supplies	\$2,540
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$95,056
<i>Total Other Direct Costs (G)</i>	\$97,596
<b>H. Total Direct Costs (A Through G)</b>	<b>\$547,687</b>
<b>I. Indirect Costs*</b>	<b>\$312,313</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	<b>\$860,000</b>
<b>K. Fees</b>	\$0
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$860,000</b>
<b>M. Cost Sharing Proposed Level</b>	\$0

\*Indirect Cost Rates

Item Name	Indirect Cost Rate
Direct Costs Subject to overhead	69.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG)

Chapter X.A.3.a. for guidance on re-budgeting authority.

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2107078

**Managing Division Abbreviation:** CNS

**Amendment Number:** 001

### AWARDEE INFORMATION

**Award Recipient:** PRESIDENT AND FELLOWS OF HARVARD COLLEGE

**Awardee Address:** 1033 MASSACHUSETTS AVE 5TH FL CAMBRIDGE, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (UEI):** LN53LCFJFL45

### AMENDMENT INFORMATION

**Amendment Type:** Supplement

**Amendment Date:** 05/20/2022

**Amendment Number:** 001

**Proposal Number:** 2226205

**Amendment Description:**

The purpose of this amendment is to:

- Add supplemental support to the award in the amount shown below in the Funding Information section.

Funds provided for participant support may not be diverted by the awardee to other categories of expense without the prior written approval of the cognizant NSF Program Officer. Since participant support cost is not a normal account classification, the awardee organization must be able to separately identify participant support costs. It is highly recommended that separate accounts, sub-accounts, sub-task, or sub-ledgers be established to accumulate these costs. The awardee should have written policies and procedures to segregate participant support costs.

Funds provided by this award include support for "Research Experiences for Undergraduates" in accordance with the NSF program solicitation NSF 19-582.

Except as modified by this amendment, the award conditions remain unchanged.

### AWARD INFORMATION

**Award Number (FAIN):** 2107078

**Award Instrument:** Continuing Grant

**Award Date:** 06/28/2021

**Award Period of Performance:** Start Date: 07/01/2021 End Date: 06/30/2025  
**Project Title:** CNS Core: Medium: Approximation and Randomization in the Programmable Data Plane  
**Managing Division Abbreviation:** CNS  
**Research and Development Award:** Yes  
**Funding Opportunity:** NSF 20-591 Computer and Information Science and Engineering (CISE): Core Programs  
**Assistance Listing Number(s) and Name(s):** 47.070 Computer and Information Science and Engineering

## FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$16,000  
**Total Intended Award Amount:** \$1,200,000  
**Total Approved Cost Share or Matching Amount:** \$0  
**Total Amount Obligated to Date:** \$876,000

## PROJECT PERSONNEL

<b>Principal Investigator:</b> [REDACTED]	<b>Email:</b> [REDACTED]	<b>Organization:</b> PRESIDENT AND FELLOWS OF HARVARD COLLEGE
<b>co-Principal Investigator:</b> [REDACTED]	<b>Email:</b> [REDACTED]	<b>Organization:</b> PRESIDENT AND FELLOWS OF HARVARD COLLEGE

## NSF CONTACT INFORMATION

<b>Managing Grants Official (Primary Contact)</b> <b>Name:</b> Irene C. Sattler <b>Email:</b> isattler@nsf.gov	<b>Awarding Official</b> <b>Name:</b> Jannele L. Gosey <b>Email:</b> jgosey@nsf.gov	<b>Managing Program Officer</b> <b>Name:</b> Ann Christine Von Lehmen <b>Email:</b> avonlehm@nsf.gov
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## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 05/13/2022, available at <https://www.nsf.gov/awards/managing/rtc.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

**BUDGET****A. Senior Personnel**

Senior Personnel Count	0.00
Senior Personnel Calendar Months	0.00
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	\$0

**B. Other Personnel****Post Doctoral Scholars**

Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	\$0

**Other Professionals**

Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	\$0

**Graduate Students**

Graduate Students Count	0.00
Graduate Students Amount	\$0

**Undergraduate Students**

Undergraduate Students Count	0.00
Undergraduate Students Amount	\$0

**Secretarial - Clerical**

Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	\$0

**Other**

Other Count	0.00
Other Amount	\$0
<i>Total Salaries and Wages (A+B)</i>	\$0

**C. Fringe Benefits**

<i>Total Salaries, Wages, Fringe Benefits (A + B + C)</i>	\$0
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**D. Equipment**

	\$0
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**E. Travel**

Domestic	\$0
International	\$0
<b>F. Participant Support Costs</b>	
Participant Support Costs Stipends	\$7,600
Participant Support Costs Travel	\$0
Participant Support Costs Subsistence	\$8,400
Participant Support Costs Other	\$0
Total Number of Participants	2.00
<i>Total Participant Costs (F)</i>	\$16,000
<b>G. Other Direct Costs</b>	
Materials Supplies	\$0
Publication Costs	\$0
Consultant Services	\$0
Computer Services	\$0
Subawards	\$0
Other	\$0
<i>Total Other Direct Costs (G)</i>	\$0
<b>H. Total Direct Costs (A Through G)</b>	<b>\$16,000</b>
<b>I. Indirect Costs*</b>	<b>\$0</b>
<b>J. Total Direct and Indirect Costs (H + I)</b>	\$16,000
<b>K. Fees</b>	\$0
<b>L. Total Amount of Request (J) OR (J + K)</b>	<b>\$16,000</b>
<b>M. Cost Sharing Proposed Level</b>	\$0

## NATIONAL SCIENCE FOUNDATION

### Award Notice

**Award Number (FAIN):** 2107391

**Managing Division Abbreviation:** IIS

**Amendment Number:** 000

### AWARDEE INFORMATION

**Award Recipient:** Harvard College, President & Fellows of Harvard University

**Awardee Address:** 1033 MASSACHUSETTS AVE 5th Floor Cambridge, MA 02138-5369

**Official Awardee Email Address:** [REDACTED]

**Unique Entity Identifier (DUNS ID):** 082359691

### AMENDMENT INFORMATION

**Amendment Type:** New Project

**Amendment Date:** 07/20/2021

**Amendment Number:** 000

**Proposal Number:** 2107391

**Amendment Description:**

The National Science Foundation hereby awards a Standard Grant for support of the project described in the proposal referenced above .

Incentive payments or gifts to participants must be made in accordance with written institutional policies and procedures and supported by auditable documentation. The allowability of these costs will ultimately be based on the awardee institution's ability to adequately demonstrate that the incentives have been disbursed in accordance with its policies and procedures.

It is the grantee's responsibility to ensure that any human subjects work conducted under this award has an Institutional Review Board (IRB) approval, where required, and that such approval remains valid at all times that human subjects work is conducted under the award. Failure to comply with this condition will result in suspension and/or termination of the award.

### AWARD INFORMATION

**Award Number (FAIN):** 2107391

**Award Instrument:** Standard Grant

**Award Date:** 07/20/2021

**Award Period of Performance:** Start Date: 10/01/2021 End Date: 09/30/2025

**Project Title:** HCC: Medium: Improving Human-AI Collaboration on Decision-Making Tasks

**Managing Division Abbreviation:** IIS

**Research and Development Award:** Yes



**Funding Opportunity:** NSF 20-591 Computer and Information Science and Engineering (CISE): Core Programs

**CFDA Number and Name:** 47.070 Computer and Information Science and Engineering

## FUNDING INFORMATION

**Amount Obligated by this Amendment:** \$1,200,000

**Total Intended Award Amount:** \$1,200,000

**Total Approved Cost Share or Matching Amount:** \$0

**Total Amount Obligated to Date:** \$1,200,000

**Expenditure Limitation:** Not Applicable

## PROJECT PERSONNEL

**Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

**Co-Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

**Co-Principal Investigator:**

[REDACTED]

**Email:**

[REDACTED]

**Institution:** Harvard University

## NSF CONTACT INFORMATION

**Managing Grants Official**  
(Primary Contact)

**Name:** Tianay M. Robinson

**Email:** trobinso@nsf.gov

**Awarding Official**

**Name:** Tianay M. Robinson

**Email:** trobinso@nsf.gov

**Managing Program Officer**

**Name:** Todd Leen

**Email:** tleen@nsf.gov

## GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 11/12/2020, available at <https://www.nsf.gov/awards/managing/rte.jsp>.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

This award is made in accordance with the provisions of NSF Solicitation: NSF 20-591 Computer and Information Science and Engineering (CISE): Core Programs.